What is claimed is:

1. A substantially purified constitutive disease resistance 1 (CDR1) polypeptide.

2. The polypeptide of claim 1, wherein the amino acid sequence of said protein is substantially the same the amino acid sequence set forth in SEQ ID NO:2, and conservative variants thereof.

3. The polypeptide according to claim 1, wherein the amino acid seequence of said protein is set forth in SEQ ID NO:2.

4. An isolated polynucleotide encoding the constitutive disease resistance 1 (CDR1) polypeptide of claim 1.

5. An isolated polynucleotide encoding an amino acid sequence as set forth in SEQ ID NO:2.

6. An isolated polynucleotide selected from the group consisting of:

   a) SEQ ID NO:1;

   b) SEQ ID NO:1, wherein T can also be U;

   c) nucleic acid sequences complementary to SEQ ID NO:1;

   d) fragments of a), b), or c) that are at least 15 bases in length and that will hybridize to DNA which encodes constitutive disease resistance 1 (CDR1) polypeptide as set forth in SEQ ID NO:2; and degenerate variants of a), b), c), or d).

7. The polynucleotide of claim 4, wherein the polynucleotide is isolated from a plant cell.

8. The polynucleotide of claim 5, wherein said polynucleotide is operatively linked to an expression control sequence.

9. The polynucleotide of claim 8, wherein the expression control sequence is a promoter.

10. The polynucleotide of claim 9, wherein the promoter is tissue specific.

11. An expression vector containing the polynucleotide of claim 5.

12. The vector of claim 11, further comprising a selectable marker.

13. The vector of claim 12, wherein said selectable marker confers antibiotic resistance.

14. The vector of claim 11, wherein the vector is a viral vector.

15. The vector of claim 11, wherein the vector is a plasmid.

16. The vector of claim 15, wherein the plasmid is a Ti plasmid of *Agrobacterium tumefaciens.*

17. The vector of claim 15, wherein the plasmid is an Ri plasmid of *Agrobacterium tumefaciens.*

18. A host cell containing the vector of claim 11.

19. An antibody that binds to the polypeptide of claim 1, or binds to antigenic fragments of said polypeptide.

20. A method of producing a genetically modified plant characterized as having increased disease resistance as compared to the corresponding wild-type plant, said method comprising:

a) contacting plant cells with nucleic acid encoding a constitutive disease resistance 1 (CDR1) polypeptide, wherein said nucleic acid is operatively associated with an expression control sequence, to obtain transformed plant cells;

b) producing plants from said transformed plant cells under conditions which allow expression of constitutive disease resistance 1 (CDR1); and

c) selecting a plant exhibiting said disease resistance.

21. The method of claim 20, wherein said increased disease resistance is increased resistance to a bacterial pathogen.

22. The method of claim 21, wherein said bacterial pathogen is selected from the group consisting of *Pseudomonas syringe* pv. tomato (Pst) and *Pseudomonas syringe* pv. maculicola (Psm).

23. The method of claim 20, wherein the expression control sequence is a promoter.

24. The method of claim 20, wherein the contacting is by physical means.

25. The method of claim 20, wherein the contacting is by chemical means.

26. The method of claim 20, wherein the plant cell is selected form the group consisting of protoplasts, gamete producing cells, and cells which regenerate into whole plants.

27. The method of claim 20, wherein said nucleic acid is contained in a T-DNA derived vector.

28. A plant produced by the method of claim 20.

29. Plant tissue derived from a plant of claim 28.

30. A seed derived from a plant of claim 28.

31. A method for genetically modifying a plant cell such that a plant, produced from said cell, is characterized as having increased disease resistance as compared with a wild-type plant, said method comprising:

a) introducing a constitutive disease resistance 1 (CDR1) polynucleotide of claim 5 into a plant cell to obtain a transformed plant cell; and

b) growing said transformed plant cell under conditions which permit expression of constitutive disease resistance 1 (CDR1) polypeptide thereby producing a plant having increased disease resistance.

32. The method of claim 31, wherein said increased disease resistance is increased resistance to a bacterial pathogen.

33. The method of claim 32, wherein said bacterial pathogen is selected from the group consisting of *Pseudomonas syringe* pv. tomato (Pst) and *Pseudomonas syringe* pv. maculicola (Psm).

34. A method of producing a plant characterized as having increased disease resistance as compared to a wild-type plant, said method comprising contacting a susceptible plant with a constitutive disease resistance 1 (CDR1) promoter-inducing amount of an agent necessary to elevate constitutive disease resistance 1 (CDR1) gene expression above constitutive disease resistance 1 (CDR1) expression in a plant not contacted with the agent.

35. The method of claim 34, wherein the agent is a transcription factor.

36. The method of claim 34, wherein the agent is a chemical agent.

37. The method of claim 34, wherein said increased disease resistance is increased resistance to a bacterial pathogen.

38. The method of claim 37, wherein said bacterial pathogen is selected from the group consisting of *Pseudomonas syringe* pv. tomato (Pst) and *Pseudomonas syringe* pv. maculicola (Psm).

39. A method of producing genetically transformed, disease-resistant plants, comprising introducing into the genome of a plant cell to obtain a transformed plant cell, a nucleic acid sequence comprising an expression control sequence operably linked to a polynucleotide encoding constitutive disease resistance 1 (CDR1) polypeptide.

40. The method of claim 39, wherein said expression control sequence targets expression to a plant tissue selected from the group consisting of leaves, roots, shoots, and stems.

41. The method of claim 39, wherein the polynucleotide is the polynucleotide of claim 5.

42. The method of claim 39, wherein said disease resistance is resistance to a bacterial pathogen.

43. The method of claim 42, wherein said bacterial pathogen is selected from the group consisting of *Pseudomonas syringe* pv. tomato (Pst) and *Pseudomonas syringe* pv. maculicola (Psm).

44. A plant produced by the method of claim 39.

45. Plant tissue derived from a plant produced by the method of claim 39.

46. A seed derived from a plant produced by the method of claim 39.

47. A method for identifying novel disease resistance genes, said method comprising:

e) probing a nucleic acid library with at least a fragment of a polynucleotide of claim 5; and

f) selecting those clones of said library which hybridize with said fragment.

48. A substantially purified polypeptide characterized as having a molecular weight of about 4.5 kDa by PAGE; being induced by CDR1 polypeptide; and having a biological activity that induces disease resistance in plants.

49. A method for increasing disease susceptibility in a plant comprising contacting the plant with a CDR1 inhibiting amount of an agent such that the plant has greater susceptibility to disease than a wild-type plant not contacted with the agent.

50. The method of claim 49, wherein the agent is an antibody.

51. The method of claim 49, wherein the agent is an antisense oligonucleotide.